

VEITHsymposium 2024 ★ New York

**Current Optimal Treatment Of
Carotid Artery Dissections:
When Anticoagulation and Antiplatelet Drugs
When CAS
When Open Surgery**



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Nothing to disclose

Epidemiology

Incidence 2.6/100 000/year

25% of patients are younger than 45 yrs.

Risk Factors

- Hereditary diseases of connective tissue
- Ehlers Danlos disease
- Marfan disease
- Fibromuscular dysplasia
- Polycystic kidney disease
- Smoking
- Contraceptive drugs

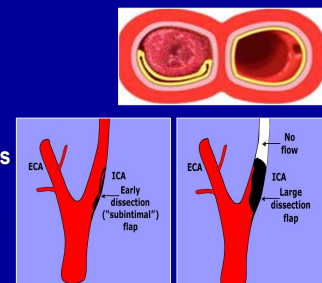
Possible Etiological Factors

- Position of head, e.g. dentist
- Fighting sports
- Neck manipulations, e.g. massage
- Infective neck diseases

JH Matsuura et al.: Traumatic Carotid Artery Dissection and Pseudoaneurysm Treated With Endovascular Coils and Stent. J. Endovasc. Surg., 1997;4:339-343.

Dissection

- Intimal tear
- Intimal flap
- Intramural hematoma
- Aneurysm formation
- Intravascular thrombus formation
- Possible embolization
- Flow reduction
- Artery occlusion



Dissections

- 75% extracranial internal carotid artery (M=F)
- 15% vertebral artery (F>M)
- 10% intracranial arteries: carotid, vertebral, middle cerebral, basilar arteries
- 15% bilateral disease
- 5-10% mortality

Symptoms of Carotid Dissection

- Neck pain
- Transient amaurosis, underperfused retina
- Senso-motoric impairment
- Horner syndrome with pain
- Neck swelling
- Altered taste

Treatment Options

| | |
|---------------------|-----------------|
| Medication | 100% |
| Intervention | >80% |
| Surgery | < 20% |

Endovascular Treatment Options

- Thrombolysis
- Recanalization - PTA
- Stenting
- Thrombus aspiration

Cases

Acute Carotid Dissection

AM 46 yrs. (m)

acute hemiparesis
neck pain

CTA: ICA dissection

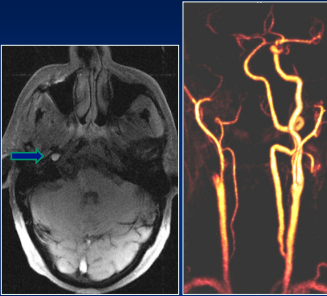


Acute Carotid Dissection

AM 46 yrs. (m)

acute hemiparesis
neck pain

MRI - MRA: dissection of ICA




Acute Carotid Dissection

AM 46 y. (m)

acute hemiparesis
neck pain

TX: balloon angioplasty
residual distal stenosis



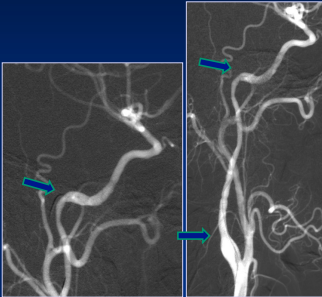
Acute Carotid Dissection

AM 46 y. (m)

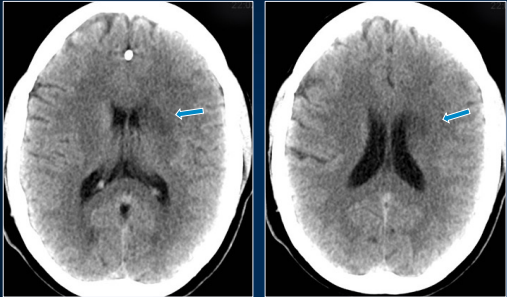
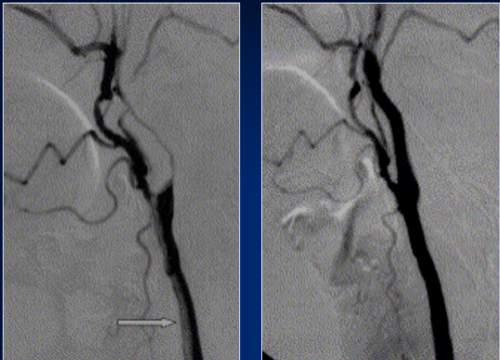
hemiparesis resolved
within 30 min

TX:
ICA angioplasty result
minimal residual
narrowing

cave:
always underdilate!



Acute Stroke 23 y old Woman

23 yrs. (f) ICA dissection Covered stent


Chronic Carotid Dissection

AM 44 y. (m)

left ICA:
occluded

now pulsative tinnitus

right ACI:
2 aneurysms

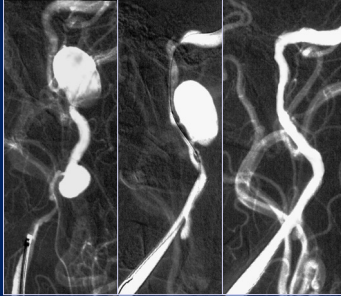


Chronic Carotid Dissection

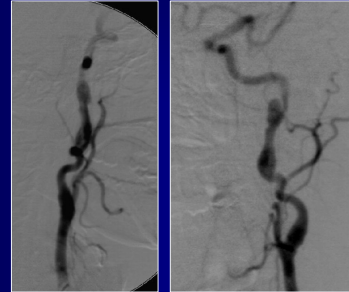
AM 44 y. (m)

aneurysmata excluded
Wallgraft 6 mm

free of recurrence and
symptoms for 5 yrs.

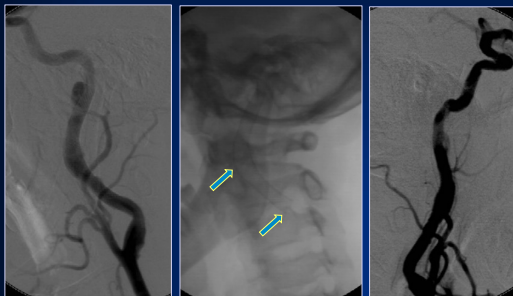


Dissection with Pseudoaneurysm



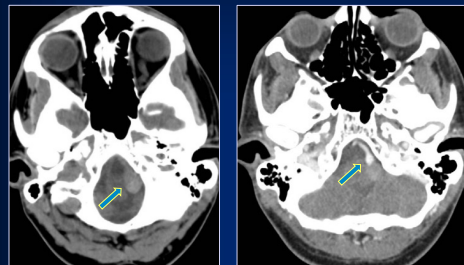
51 yrs. (m) neck pain

Dissection with Pseudoaneurysm



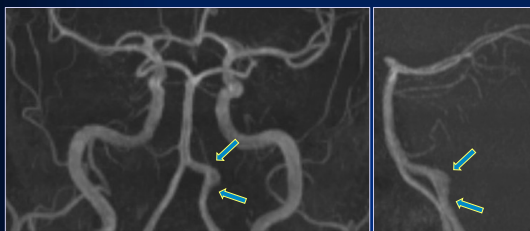
Male 51 yrs. neck pain - stenting

VA Dissection

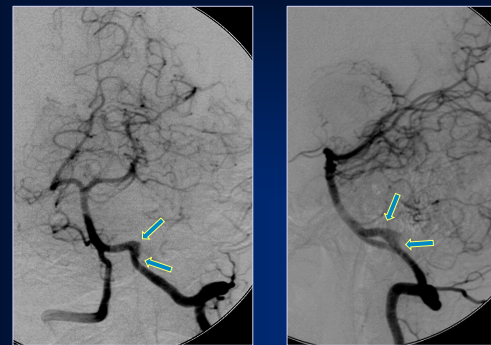


35 yrs. (m) Vertigo and Diplopia

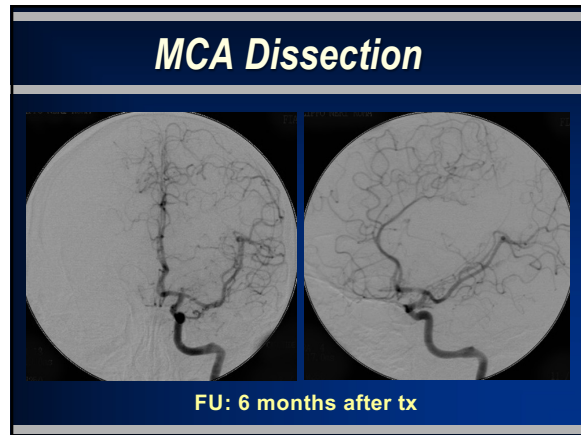
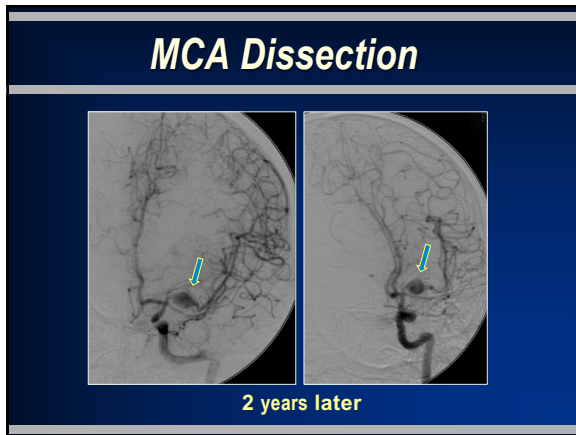
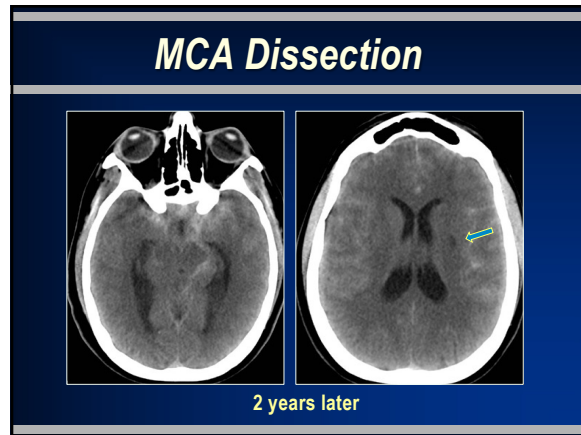
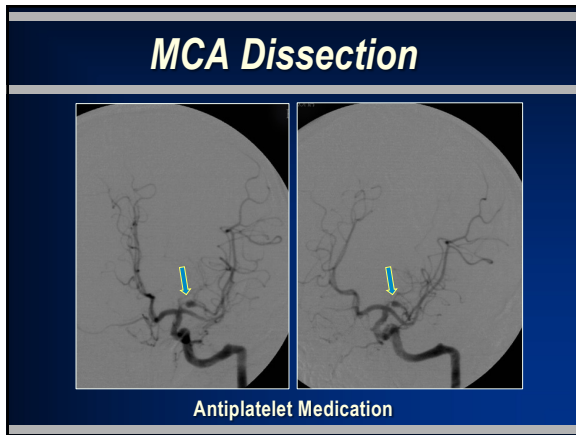
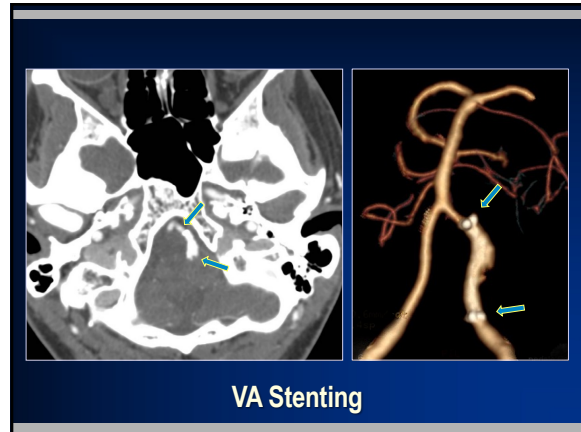
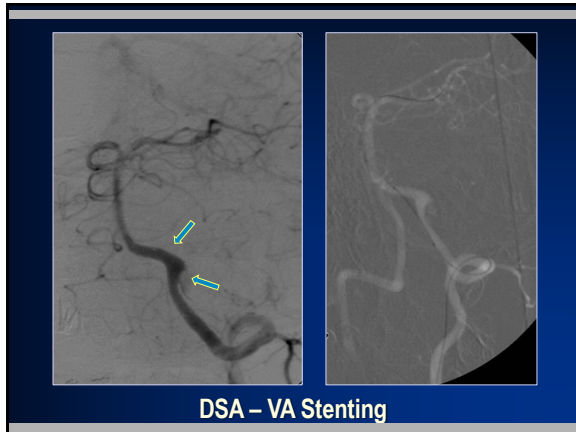
VA Dissection



MRA



DSA



Complications of Endovascular TX

| | |
|-------------------|------|
| – Death | 1.6% |
| – Stroke | 2.1% |
| – IC hemorrhage | 1.3% |
| – Stent occlusion | 2.6% |
| – Total | 7.6% |

Literature Review 1995-2024 2369 papers 1271 treated pts

Conclusions

Medication always !
Intervention can repair most of
the lesions (>80%) !
Surgery when CCA and aorta
are involved or transcranial
bypass.

Endovascular first !

